FIG.1

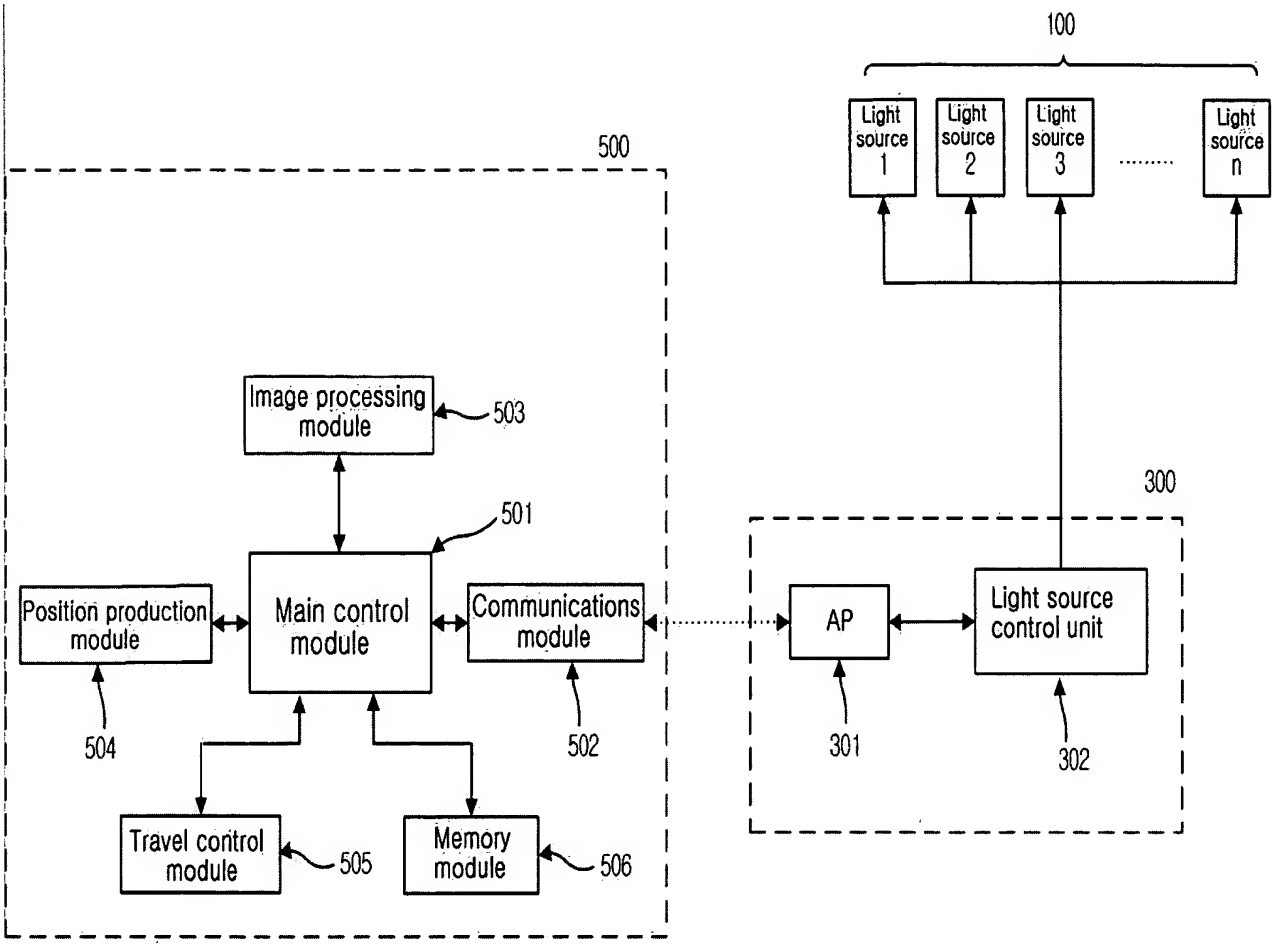

100
Light source 1
Light source 2
Light source 3
Light source n
500
Image processing module
503
501
Position production module
Main control module
Communications module
504
502
Travel control module
505
Memory module
506
300
AP
Light source control unit
301
302

FIG. 2

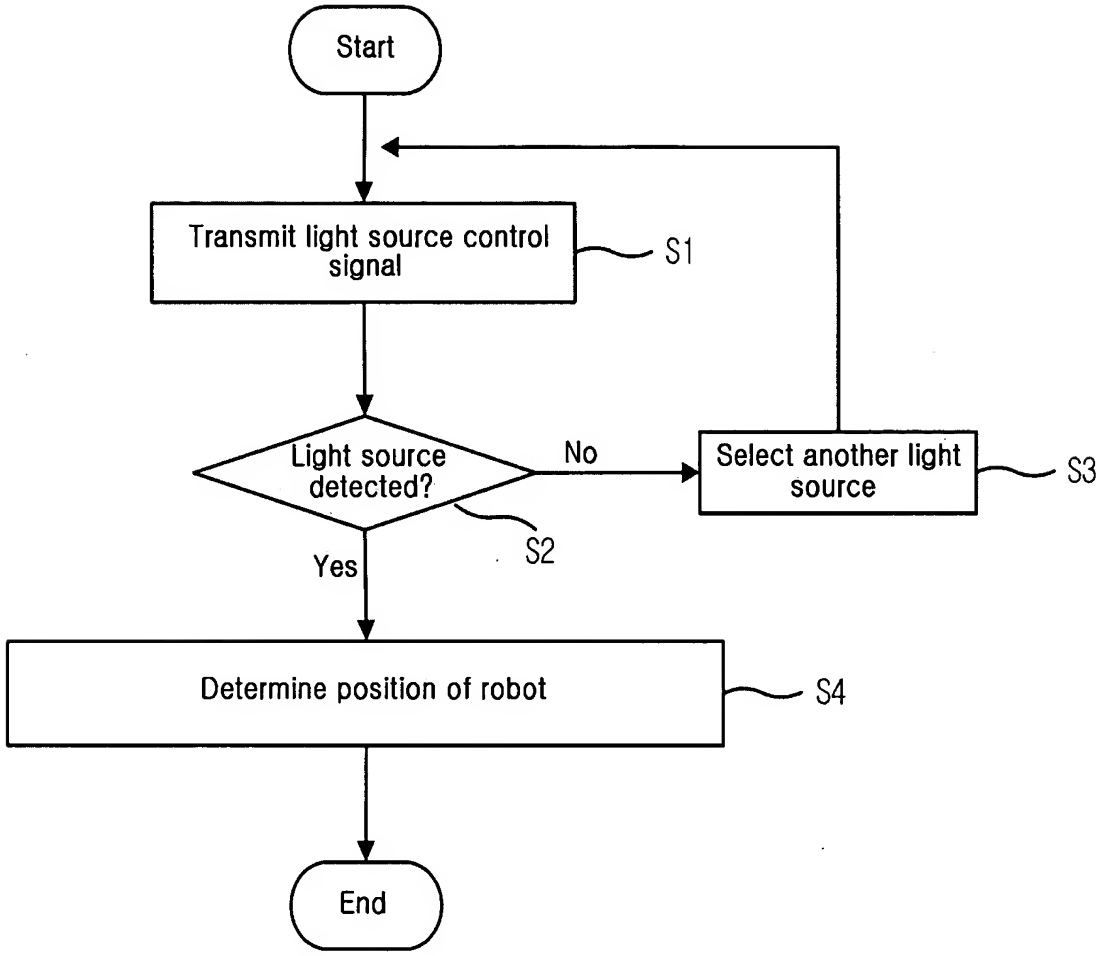
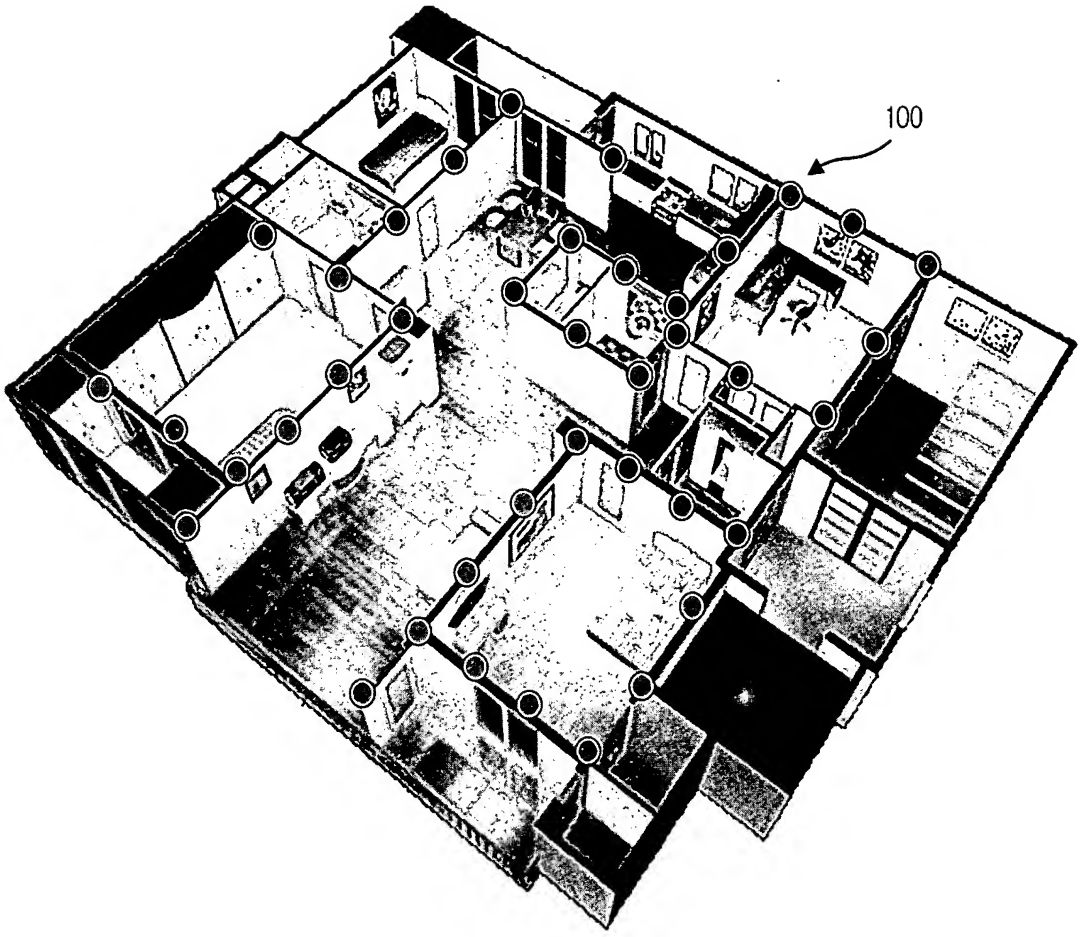

Start
Transmit light source control signal
S1
Light source detected?
No
Select another light source
S3
S2
Yes
Determine position of robot
S4
End

FIG.3



BEST AVAILABLE COPY

FIG.4

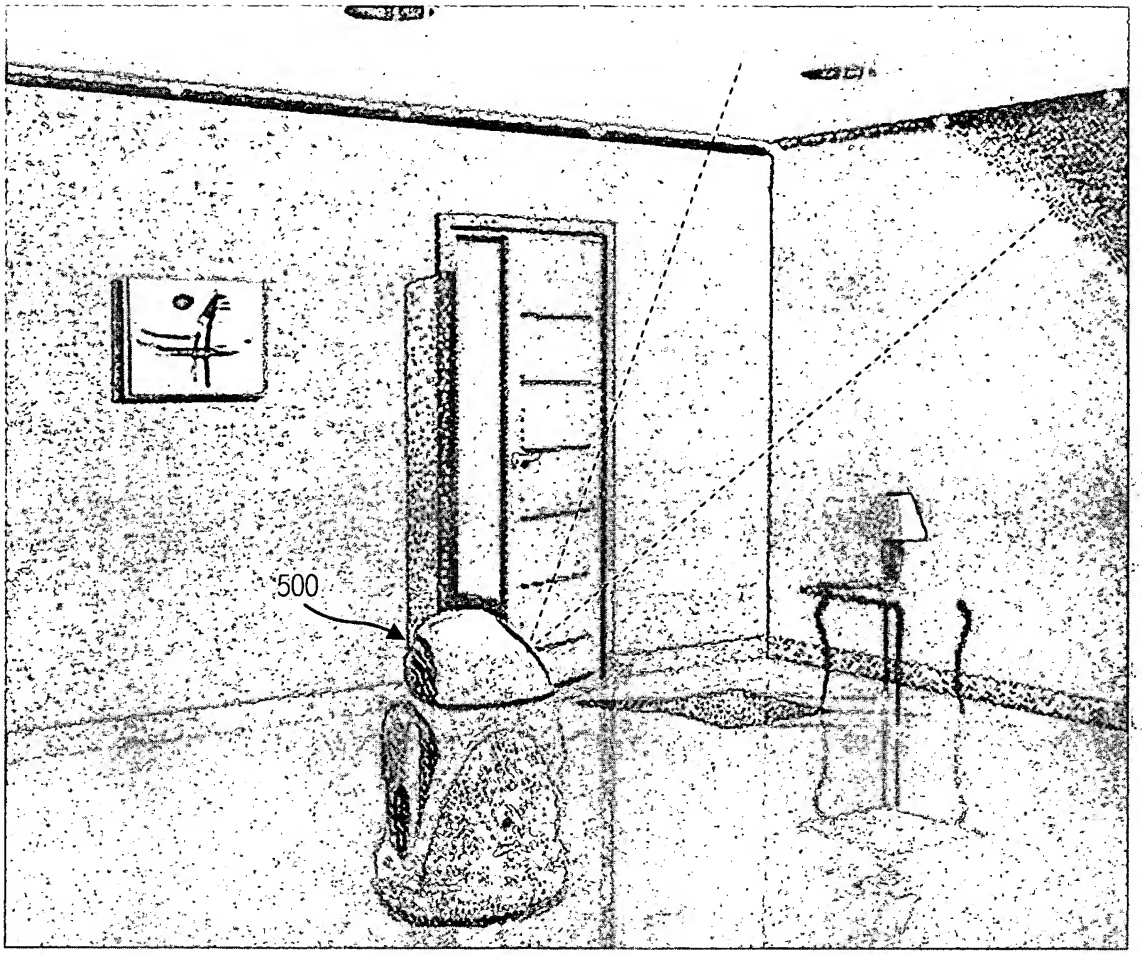


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FIG.5

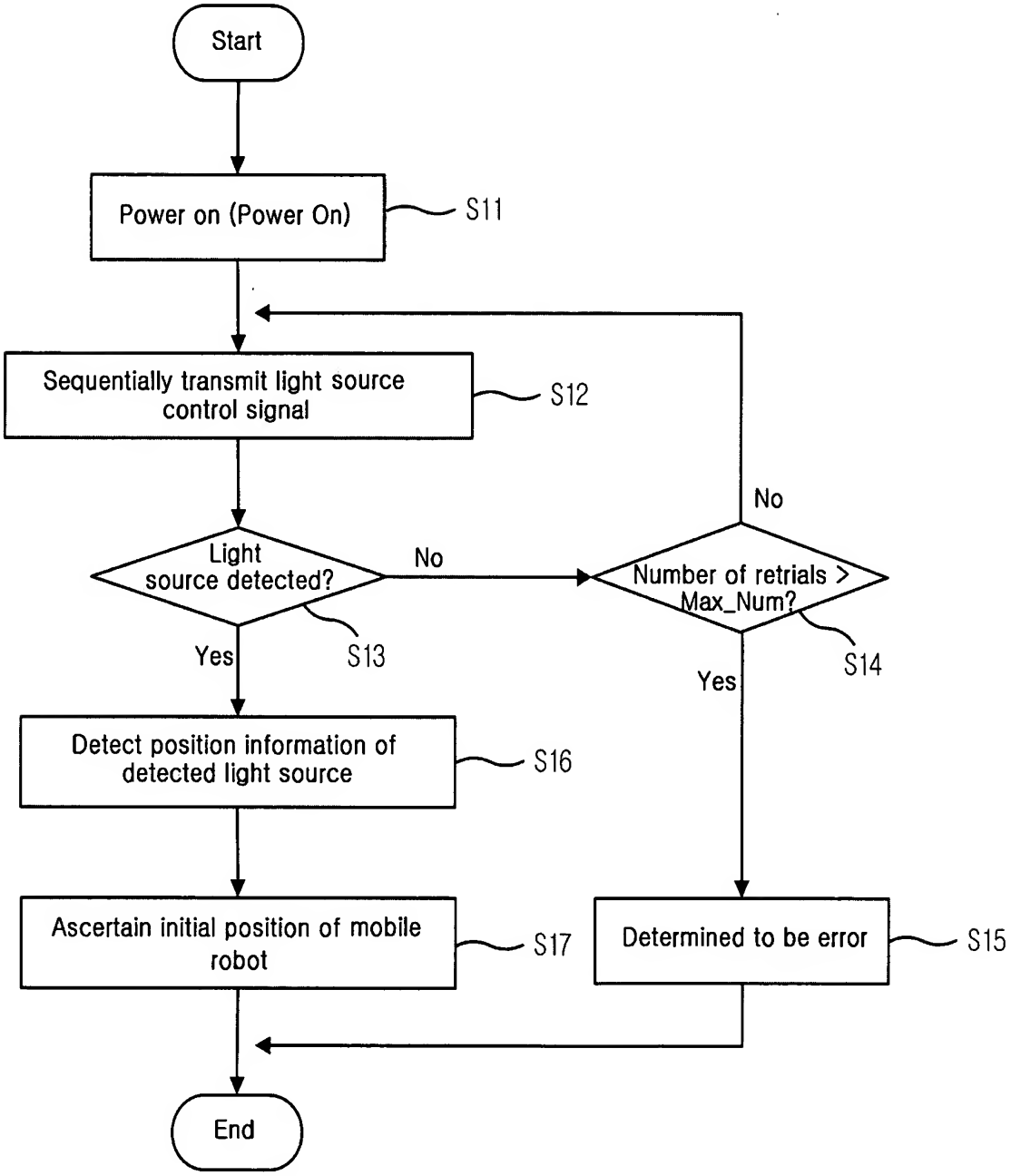
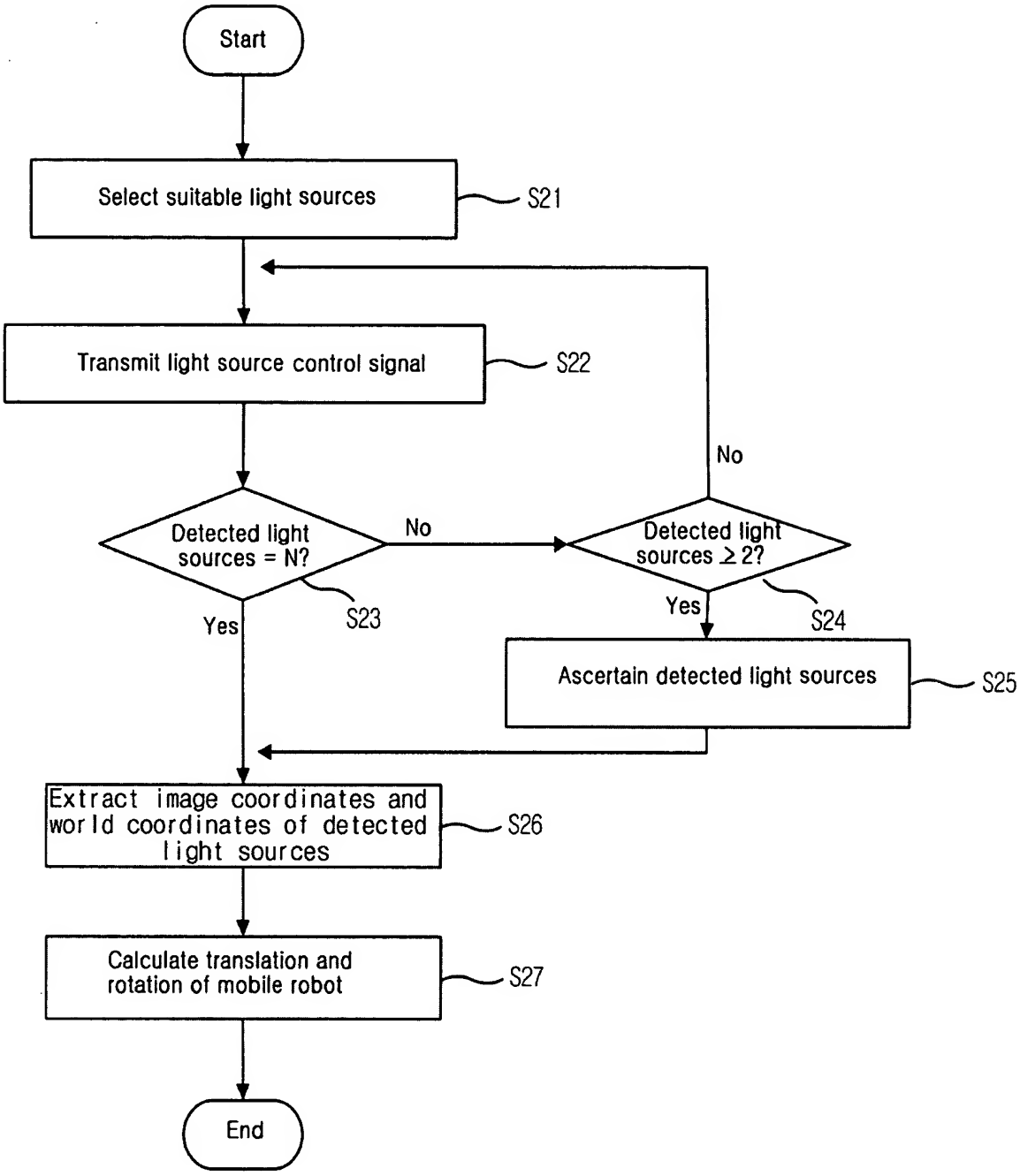

Start
Power on (Power On)
S11
Sequentially transmit light source control signal
S12
Light source detected?
No
Yes
S13
Number of retrials > Max_Num?
No
Yes
S14
Detect position information of detected light source
S16
Ascertain initial position of mobile robot
S17
Determined to be error
S15
End

FIG.6


Start
Select suitable light sources
S21
Transmit light source control signal
S22
Detected light sources = N?
S23
No
Yes
Detected light sources ≥ 2?
S24
No
Yes
Ascertain detected light sources
S25
Extract image coordinates and world coordinates of detected light sources
S26
Calculate translation and rotation of mobile robot
S27
End